Message

From: O'Loughlin, Connor [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D1F369DA6C9547ED90366BFB7C59510B-OLOUGHLIN,]
Sent: 9/6/2019 4:33:23 PM
To: Gordon, Stephanie A. (DNREC) [Stephanie.Gordon@delaware.gov]
CC: Galloway, Rick (DNREC) [rick.galloway@delaware.gov]
Subject: RE: Blades Groundwater - Today's Discussion (Contains Deliberative or Confidential Data)

Stephanie,

(Message Contains Deliberative or Confidential Data)

A release of hazardous substances associated with these sources (i.e., PFOS, PFOA, PFBS, copper, nickel, and cobalt) has occurred to the groundwater migration pathway. The metals concentrations may not significantly influence the public well at this point. There are detects in the wells that are a large concern. The metals plume is still evident in the drinking water and WPHA and therefore is a continued threat to human health targets.

For HRS scoring purposes, the area of the groundwater plume is based on available sample locations that meet the criteria for an observed release. The minimum standard to establish an observed release by chemical analysis is analytical evidence of a hazardous substance in the media significantly above the background level. Further, some portion of the release must be attributable to the site. Analytical results indicated the presence of PFOS, PFOA, chromium, hexavalent chromium, copper, nickel, and zinc in groundwater at concentrations significantly above background. Because the source consists of a groundwater plume, the plume contamination is established by sampling, using the observed release criteria.

The boundaries and total depths of the plume are not sufficiently defined to get an exact volume. Therefore, based on the presence of hazardous substances in the observed release samples, the volume of the groundwater contamination is at least greater than 0 cubic yards, but the exact volume is unknown.

The Town of Blades public supply wells withdraw water from the unconfined Columbia Aquifer. The Well Head Protection Area (WHPA) for the public supply wells suggests a primary groundwater flow direction to the northwest, towards the public supply wells. Therefore For HRS scoring purposes, the aquifer beneath the site is evaluated as a single aquifer, the Columbia Aquifer. There are also no continuous confining layers within or between the units that make up the aquifer, and the Nanticoke River is relatively shallow and does not form hydrological divides.

Target within the Wellhead Protection Area are sufficient to achieve the maximum pathway score for this site. The groundwater plume lies within the Town of Blades Wellhead Protection Area. Wellhead Protection Areas in Delaware are designated by EPA in accordance with Section 1428 of the Safe Drinking Water Act and adds to the maximum score. The onsite monitoring wells also indicate that a release has been documented for other electroplating metals including chromium, cyanide, nickel, copper, zinc and these levels were significantly above benchmarks constituting a longterm potential risk to drinking water.

Table 20. Level II - Metals

Location ID	Population	Substance	Conc. (µg/L)	MDL (µg/L)	Benchmark (µg/L)
PW-1	533	Copper	6.4	2	800
PW-2	533	Copper	61.7	2	800
		Zinc	254	2	6,000
PW-3	533	Copper	7.7	2	800

Table 19. Level II - PFAS					
Location ID	Population	Substance	Conc. (ng/L)	MDL (ng/L)	Benchmark (ng/L)
PW-1	533	PFOS	43	0.86	NA
		PFOA	27	2.5	NA
PW-2	533	PFOS	27	0.82	NA
		PFOA	24	2.3	NA
PW-3	533	PFOS	160	0.84	NA
		PFOA	14	2.3	NA
RW-115	1	PFOS	44	5.8	NA
RW-142	2	PFOS	35	5.9	NA
		PFOA	23	2.4	NA
RW-173	2	PFOS	57	6.2	NA
RW-182	2	PFOS	170	6.7	NA
RW-197	2	PFOS	180	6	NA
RW-209	2	PFOA	40	2.7	NA
RW-275	4	PFOS	51	6	NA

MDL = Method Detection Limit
ng/L = nanograms per liter
NA = not applicable

Thank you, let me know if this helps answer your question.

Connor O`Loughlin P.G.
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From: Gordon, Stephanie A. (DNREC) <Stephanie.Gordon@delaware.gov>
Sent: Thursday, September 05, 2019 2:54 PM
To: O'Loughlin, Connor <oloughlin.connor@epa.gov>
Cc: Galloway, Rick (DNREC) <rick.galloway@delaware.gov>
Subject: RE: Blades Groundwater - Today's Discussion

Thanks. Sorry, another question. Can you clarify - how exactly are metals impacting the public supply wells at present?

From: O'Loughlin, Connor <oloughlin.connor@epa.gov>
Sent: Thursday, September 05, 2019 2:43 PM
To: Gordon, Stephanie A. (DNREC) <Stephanie.Gordon@delaware.gov>
Subject: RE: Blades Groundwater - Today's Discussion

No problem I am happy to clarify this topic. It has been a bit confusing myself, I still have to think about it when describing the rational.

An yes, that was a large portion of the rational to list the site. Having contamination above the health advisory level let EPA act on the drinking water. It will be easier this fall when they list it as a hazardous substance and include PFAS in SCDM.

Connor

From: Gordon, Stephanie A. (DNREC) <Stephanie.Gordon@delaware.gov>
Sent: Thursday, September 05, 2019 2:38 PM
To: O'Loughlin, Connor <oloughlin.connor@epa.gov>
Cc: Galloway, Rick (DNREC) <rick.galloway@delaware.gov>
Subject: RE: Blades Groundwater - Today's Discussion

Thanks for the additional information, Connor.

Would it be accurate to say that one of several reasons why EPA is proposing to list the Site is the fact that *public wells were affected by a pollutant or contaminant (PFOS, PFOA) above a health advisory level*?

From: O'Loughlin, Connor <oloughlin.connor@epa.gov>
Sent: Thursday, September 05, 2019 1:56 PM
To: Gordon, Stephanie A. (DNREC) <Stephanie.Gordon@delaware.gov>
Subject: Blades Groundwater - Today's Discussion

Stephaine,

To aid in your discussion with your folks, I thought I would send an email discussing the reasoning for listing.

Perfluorooctanesulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) as Site Pollutants/Contaminants. PFOS and PFOA are evaluated as pollutants/contaminants in the site scoring, but factor values and benchmarks are not yet included in the Superfund Chemical Data Matrix (SCDM) for these constituents. The Region has mitigated this issue by including the Health Effects Support Documents (HESD) for PFOS and PFOA as supporting documentation for the PFOS and PFOA reference dose (RfD). The Region has shown that the calculated PFOS dose in a site monitoring well exceeds the RfD value, and the calculated PFOA dose in a residential well is just below the RfD. If PFOS and PFOA as site pollutants/ contaminants were to be successfully challenged, the site score would still remain above the 28.50 NPL listing cutoff based on metals (chromium, hexavalent chromium, copper, nickel and zinc) in site monitoring wells and the public supply wells.

Thank you.

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